ISSUE TWO SPRING 1983

COLOURS	
BLACK	0
RUST	16
RED-ORANGE	32
DARK ORANGE	48
RED	64
DARK LAVENDER	80
COBALT BLUE	96
ULTRAMARINE BLUE	112
MEDIUM BLUE	128
DARK BLUE	144
BLUE-GREY	160
OLIVE GREEN	176
MEDIUM GREEN	192
DARK GREEN	208
ORANGE-GREEN	224
ORANGE	240

LUMINANCE (BRIGHTNESS)	
MIN. BRIGHTNESS =	0
	2
	4
	6
	8
	10
	12
	14

I/O

INPUT/OUTPUT THE QUARTERLY MAGAZINE OF THE ATARI HOME COMPUTER CLUB

ISSUE TWO SPRING 1983

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INPUT/OUTPUT, THE MAGAZINE FOR MEMBERS OF THE ATARI HOME COMPUTER CLUB

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Welcome to the second issue of I/O, the exclusive quarterly magazine for Atari Home Computer owners.

As you can see, we are now using a leafed design to help you read and store the magazine more easily. The new fuller format gives you more information than ever before on how to get the best out of your Atari computer.

Regular slots include up-to-the-minute news, readers' letters, new products pages, entertainment, programs, Kid's Corner and Hotline help.

This quarter's News From The User Groups contains a very amusing and interesting article from Graham Daubney, our Software Manager, on his visit to the Birmingham User Group (BUG) and we provide a comprehensive list of all groups now working around the country.

The Sound Feature gives a detailed explanation of this challenging way of enhancing your own programs, and the article on How To Photograph Your Atari Computer Graphics offers a prize for readers achieving the best results.

We take an in-depth look at Atari computers in education and the exciting new lesson-creation software package now being tested in Berkshire schools on page 14. The Atari Library advises on which of the often confusing number of computer books and magazines now available you should buy.

The expanded Atari Service section provides information on where to go and what to do whenever a problem arises. We enclose the latest Atari Independent Service Centre guide, letters on some typical technical problems and how to solve them, and we announce the arrival of a new Atari UK software development programme.

In addition, you will find details of the many software titles now available in the UK in our full-colour centre spread, some exciting new programs to try and much, much more. We want to make sure that you find out what's happening in the world of Atari — first.

Just remember, I/O is the exclusive magazine of the Atari Home Computer Owners' Club. Only you, and those like you who have bought an Atari 400 or 800 Home Computer and have sent in your dealer registration card to obtain membership, are entitled to a complimentary copy.

Finally, we would like to apologise for a printing error in our "Brass"GTIA program contained in the last issue. As many of you so rightly pointed out, the correct program should read:

```
 10 GRAPHICS 9
 15 SETCOLOR 4,13,0
 20 FOR Y=55 TO 0 STEP -10
 30 FOR X=0 TO 24
 40 C=X:IF X>11 THEN C=24-X
 45 C=C+3
 50 Z=Y+(X)
 55 D=INT(SQR(144-(X-12)*(X-12)))/2
 57 COLOR 15-C
 58 PLOT Z,Y+7-D
 60 DRAWTO Z,Y+7+D
 70 COLOR C
 80 DRAWTO Z,180-Y+D
180 NEXT X
190 NEXT Y
200 GOTO 200
```

Editor

NEWS

You may well have been one of the thousands who attended Atari's spectacular six-a-side football championship held recently at the Birmingham National Exhibition Centre (NEC).

For those unlucky ones amongst you who didn't go to the championship on 25 and 26 January, let's recap on some of the fun.

Atari's sponsorship for this event brought together six members of eight First Division teams who took part in 15 matches — and how they played!

A total of 76 goals were scored — that's one every three minutes! Well over 14,000 people flocked to see the non-stop-action matches and the noise they made was absolutely tremendous. Every time a goal was scored shouts and cheers ran through the NEC arena.

Yet, not all the action took place on the pitch. The whole family had a chance to enter some of the many exciting competitions in and around the ground — by playing Atari video games or by showing their expertise on Atari 400 and 800 Home Computers.

As you may have heard on one of the numerous radio and TV broadcasts covering the event, a major part of the fun was seeing badly behaved players banished to the "Sin Bin" (will it take on, we wonder?). There was also a vast Diamond Vision screen which showed action re-plays, a flashing electronic board relaying messages to the crowds, marching bands and spotlights. Clouds of dry ice were released into the arena, creating a magical space-age atmosphere which enthralled the audience.

At the end of the grand finale, Birmingham City was found, appropriately enough, to be the winning team. And everyone agreed with Graham Clark, Atari's managing director, as he presented the trophy saying:

"Soccer Six and Atari have made a perfect partnership. We and the Football League both believe in our product's quality and family appeal. That's what makes our sponsorship totally appropriate."

For a full league table of results, see below.

GROUP ONE

	P	W	D	L	F	A	Pts
Arsenal	3	2	1	0	6	2	13
Nottingham Forest	3	2	0	1	6	6	12
Southampton	3	1	0	2	7	7	10
Everton	3	0	1	2	2	6	3

GROUP TWO

	P	W	D	L	F	A	Pts
Birmingham City	3	2	2	0	12	8	17
Ipswich	3	1	1	1	8	9	12
Manchester City	3	1	2	0	6	5	11
Swansea	3	0	1	2	2	6	3

Exhibitions and shows

You will no doubt have heard about the two big computer exhibitions held recently in London and Birmingham. Some of you may even have been lucky enough to go.

Compec '82 at London's Olympia hall and the Which Computer show in Birmingham National Exhibition Centre took place in November and January respectively. And of course, the Atari team was there in force.

Literally hundreds of companies involved in all aspects of computing — from business analysis to manufacturing took part in the events. Yet each time the Atari stand proved far and away the most popular focus of attention for both casual visitors and experts.

The stand itself was probably so popular because it was different from the mass of business computer displays: it was fun! Our chosen theme was "Step up to Atari", an idea reinforced by the dominant and colourful Atari stairway arching over the stand.

At Compec '82 32 computers were plugged in and ready for use in four space-age "pods", all of which were packed with people the whole time.

The next show in which Atari will be taking part is The Ideal Home Exhibition at Olympia this March/April. Do try and come along if you can. We would love to meet you and, on past experience, it's got to be good!

CES AND THE NEW ATARI 1200XL

No less than 80,000 delegates visited the Winter Consumer Electronics Show (CES) at the Las Vegas Convention Centre from 6-9 January. For four days, America's slot-machine capital came "on-line" to the new technology; associated workshops and conferences took over city hotels.

This year, for the first time, home and personal computers were officially recognised as a separate product category, dominating the show in terms of high-level representation as well as sheer numbers.

Atari's centrally located stand, bristling with the results of our extensive investment and development programme, stood out as one of the most impressive. Not a fact to be ignored when one considers the type and amount of competition around!

The new software titles (for both HCS and VCS) were in high demand amongst delegates eager to gain "hands on" experience. But the real stars of the show were Atari's new hardware systems: the 1200XL Home Computer System and the 5200 Video Computer System.

PHOTOGRAPH BY SHELLARD HOPKINS ADVERTISING

Atari links up with local radio

Last November, Bournemouth local radio station 2CR in conjunction with Landsdowne Computer Centre ran a Home Computer Video Game Championship in the Dorset and Hampshire areas.

Every Saturday morning for three weeks listners were invited to come along to 2CR's reception and test their skill playing Centipede on one of two Atari 400 Home Computers. The five winners from each Saturday then qualified for the grand finale, held the following Saturday. There, the successful heat winners had to play five games — Space Invaders, Asteroids, PacMan, Missile Command and Centipede.

The games were transmitted live on 2CR by sports commentator Clive Russell. All of the final 15 contestants received a prize and grand champ Gary Lee from Bournemouth was presented with a radio. Runners-up each received sweat shirts and albums.

Geoffrey Roper, Managing Director of the Landsdowne Computer Centre said: "We chose Centipede as the heat game because it is a relatively new arrival on the UK scene, and therefore it was unlikely that there would be any real experts around. So everyone had an equal chance.

"The whole competition proved very successful, introduced a lot of people to the Atari Home Computer and showed them the full potential of one of the most powerful home computers on the market."

ATARI HCS 1200XL

Currently only available in the USA, this addition to the Atari Home Computer range incorporates the best features of the Atari 800, with innovations that put it to the forefront of its product category.

Specifications include 64K RAM to handle complex programs, 256 brilliant colours, four independent sound voices covering 3.5 octaves, a Help Key for useful instruction on selected programs, Self Test functions to check computer operations, One-touch Cursor Control to streamline cursor movements, Serial Interface to expand the system, and Electronic Keyboard Lock to prevent accidental entries and deletions.

The new full-stroke full-size keyboard is set in a sleek matte black, cream and silver case with a re-designed flat top suitable for stacking the matching peripherals.

E.T.

COMPETITION RESULTS

Congratulations to all of you who sent in the correct answers to our "ET" competition in the last issue. You know, of course, who you are and will by now have received your two complementary tickets to Spielburg's super film. We hope you enjoyed it.

For those unlucky ones who didn't quite get it right, better luck next time. This is what your entry should have read:

1. Player Missile Command
2. 12
3. Setcolor
4. Attract Mode
5. Poke 82,—
6. 53279
7. X10
8. POKE 756,226
9. Sound-through facility
10. I love Susie + Benjy too
    OR Freezes the action.

Meeting the press

We were rather startled to receive a letter from Hugh Denholm in Aberdeen (see Star Letter, page 7) complaining that Atari never gets a mention in the home computing press.

Well, give us a chance Hugh! We'd love to see the Atari name blazoned throughout all British magazines, but such things must be done gently. We know how good Atari is — but others must be given a chance to find out for themselves.

In fact, that's exactly what we've been trying to achieve over the past few months.

Some of the most important behind-the-scenes activities are our introductory sessions with consumer and technical press. In October, for example, Atari held four events for the consumer press at London's Sheraton Park Tower Hotel.

A total of 29 Journalists on a variety of publications including Good Housekeeping, Woman's Realm, London Property News, Thomson Regional Newspapers, Ideal Home, The Times, The Standard and BBC's Inside Information department attended for personal tuition and discussion.

The sessions were planned as a basic introduction to home computers, showing how simple they are to use and exploring the range of applied software available.

Our sales and marketing director presented a short introduction to Atari and then wider consideration was given to the subjects of the home computer market, uses of the computer in the home, and even computer jargon! Journalists were then "let loose" in small groups to find out such things for themselves.

It was tremendous fun. Everybody was most enthusiastic. Some even volunteered to do a little homework and took a computer home with them!

As you probably know only too well, there's no way you can describe the fascination and practical help offered by a home computer — it has to be demonstrated. And when you consider that there are literally thousands of journalists who may be interested to write about such a discovery, that's quite a mammoth task.

But we're working on it. Watch this space and all your magazines for more facts about Atari. This year the home computer will be headline news!

PHOTOGRAPH BY MARY ANN BARR

NEW PRODUCTS

HOME ENTERTAINMENT

DEFENDER*

A new addition to the Atari Home Computer games cartridge library is Defender*, the suspense game currently sweeping the arcades. Bombers, Baiters, Pods and other enemies try to capture humanoids to turn them into mutants for their own forces. The aim is, of course, to try to eliminate the enemy before they pick up your people. If you don't, there's still the chance of a rescue mission. But you'll have to reach the humanoids before they reach the stratosphere. For two players.

CXL4025 cartridge program. Works with an Atari Home Computer with 16K RAM. Requires Joystick Controllers

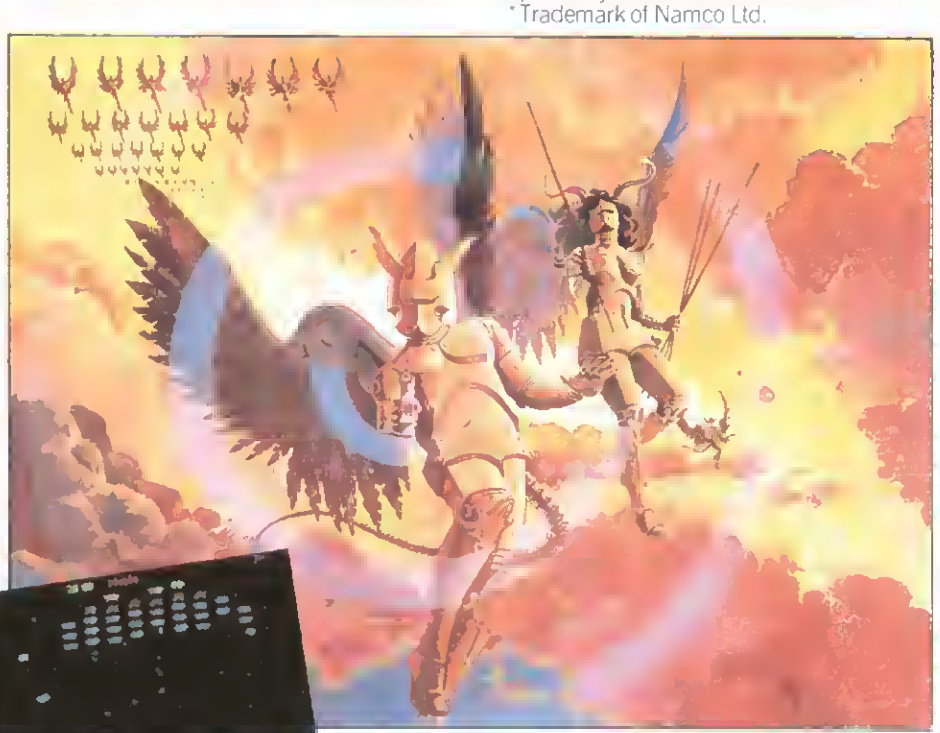
*Trademark of Williams Electronics, Inc.

GALAXIAN*

Another super new game for your Atari Home Computer. Fleet after fleet of deadly Galaxians attack you. The hornets lead the pack, followed closely by emissaries, drones and winged infantry. It's you or them. Eventually they will get you. But the question is, when? Galaxian* can be played by 1 or 2 players, at 10 different skill levels.

CXL4024 cartridge program. Works with an Atari Home Computer with 16K RAM. Requires Joystick Controllers.

*Trademark of Namco Ltd.



HOME EDUCATION

MY FIRST ALPHABET™ (Early Learning Series)

A captivating way for children to learn the alphabet and how to count using sound and entertaining graphics. Large colourful letters and pictures are drawn on the screen; clowns smile and frown and play the "Alphabet Song". As an additional bonus for the child who is too young to use the keyboard, this program can be made to run automatically. Parents can also select those numbers and letters they would like their child to see. Seven program options. For ages 3 to 5.

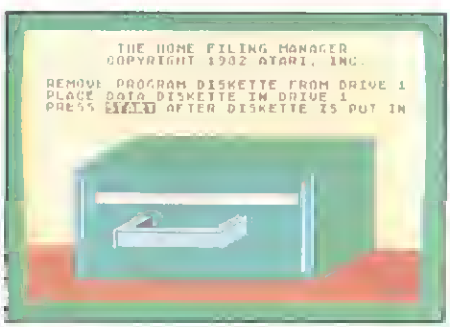
CX8135 diskette program. Works with an Atari Home Computer with 32K RAM. Requires the Atari 810 Disk Drive and the Atari BASIC cartridge.

HOME MANAGEMENT

THE HOME FILING MANAGER™

A new way to organise your home filing system. Create, edit, and retrieve information stored on Home Filing Manager™. This practical diskette facilitates the cataloguing and filling of items such as tools, books, addresses, recipes, birth dates — anything you can think of to help you to organise records, reports or belongings. Easy to use and amazingly flexible, this program provides a whole new way to organise your home and personal life by creating private files.

CX415 diskette program. Two program diskettes complete with instruction manual provided. Requires Atari 810 Disk Drive. Printer optional. Minimum RAM of 16K.



INPUT

We've had an avalanche of letters since Christmas when the new-look, new-name I/O was first introduced. Words like "fascinating, helpful and marvellous" from Glen Leadbeater of Hastings in Sussex have started an orgy of self-congratulation here at Railway Terrace.

But we will not be too smug. Obviously, one can't get it all right first time. And it does seem that our original new shape has caused a few problems. Too big! you cry. And as we want I/O to become even fuller, fatter and more fascinating, we've decided to compromise. Hence the A4 leafed format. Who says that we don't listen to what you say!

In recognition of the many letters we have received, we've decided to initiate a letters page. This will have its own section in our Summer edition, but for now here's a taste of the best.

Hugh Denholm of Stonehaven in Aberdeen sent in the following tome for which we've decided to award him the first Star Letter Award. This award will be a free piece of software for the leading correspondent of the quarter, whilst the authors of all other letters published will receive a special Atari prize.

Dear Editor
Thank you for an enjoyable first issue of I/O. The GTIA demo program contains a small error. Line 60 should read:

```
DRAWTO Z,Y+7+D
```

The result is so impressive that it's worth making it go on to draw the "cans" in different colours. To do this, change line 15 to read:

```
SETCOLOR 4, INT(RND(0)*16),0
```

change line 200 to read:

```
FOR A = 1TO1000:NEXT A
```

and add line 210:

```
GOTO 15
```

I feel that the Atari is the best home computer on the market. People who have seen mine in operation are always impressed, particularly by the graphics facilities. In spite of this the Atari never gets much of a mention in the home computing press. It's just dismissed as a games machine, nobody bothers to ponder on WHY it's such a good games machine.

I think that part of the blame must lie with Atari who consistently seem to undersell the power of the machine. How many Atari owners know about Player/Missile graphics, for example? They are easy to learn, great fun and not mentioned anywhere in the standard Atari documentation.

A book which comes halfway between the Owners' Manual and "De Re Atari", written in simple terms, showing the more advanced Atari features, would be very useful. What do other owners think?

Finally, is Atari going to re-enter the software scene? With so many companies selling programs, Atari seem to have stopped development. Are we going to see a successor to "Star Raiders" or will we have to rely on Thorn-EMI and the like? Any hints from Atari?
Sincerely,
Hugh Denholm
Aberdeen.

Firstly Hugh, many thanks for pointing out our error in the GTIA program published in the last edition of I/O.

Your modifications to our original were greatly appreciated by our editorial staff.

Your comments on the computer press were true until around September time when a noticeable change of attitude occurred and many fair reviews were published. Indeed, some specific Atari program listings are now being published; the important thing to remember here is that the computer press is there to cater for your interest and it is necessary for you to declare this interest. I feel sure that most computer magazines would be more than happy to receive contributions or constructive comments.

Our initial attitude with regard to our advanced graphical features was softly, softly as many new owners already had enough technicalities to contend with. This approach is now changing as the buyer's knowledge is growing. I'm sure that you have had a lot of enjoyment from discovering "the hidden Atari secrets".

Your suggestion for a third programming manual has been given a lot of thought at Atari. On your final comment, turn to the New Products page to find Atari's early '83 software plans. — Ed.

Dear Editor
Having got your superb Atari 800 for Christmas, I want my name to go on your computer magazine mailing list, so I can find out everything about it! I look forward to receiving it.
Yours sincerely,
L Stimac
Maidenhead
Berks.

Thank you for your complimentary letter. No doubt you have sent back your dealer registration card, so you are now an exclusive member of the Atari Home Computer owners' club, which means, of course, that you will automatically receive a copy of I/O — Ed.

Dear Atari,
I should like to thank you for the Atari 400 computer and Entertainer Kit which I recently won in your Atari Challenge.

I have been most impressed, and my children are delighted. We shall be buying a cassette recorder and some more software, including the Basic cartridge, very soon.
Yours Sincerely,
Ian Wishoot
Sevenoaks
Kent.

Ian was one of thousands who took part in the Atari Challenge which toured major railway stations and shopping centres last Autumn. He won his Atari 400 in the free lucky draw held at each venue. Atari 400s were also awarded to visitors who achieved the highest PacMan score at every stopping point — Ed.

Dear Editor
I have just picked up the first issue of I/O on the Atari stand at the "Which Computer?" show, and would like to congratulate you on producing a very good magazine for Atari owners.

However, as I am not yet a member of the Atari Home Computer Club, I would therefore appreciate it if you could send me details of this club, so that I may apply for membership.
Yours sincerely,
M Sargent
Stowmarket
Suffolk.

Thank you for your kind letter. We're delighted you like the magazine and hope you enjoyed the show. In answer to your questions, membership of the Club is exclusive to owners of an Atari Home Computer. You do not mention whether or not you do in fact possess any of our hardware.

If so, you can join by filling in your dealer registration card and returning it to Atari at Atari House, Railway Terrace in Slough. You are then entitled to a free edition of I/O, which is published on a quarterly basis. We do hope that this offer is indeed applicable to you, and look forward to hearing from you again — Ed.

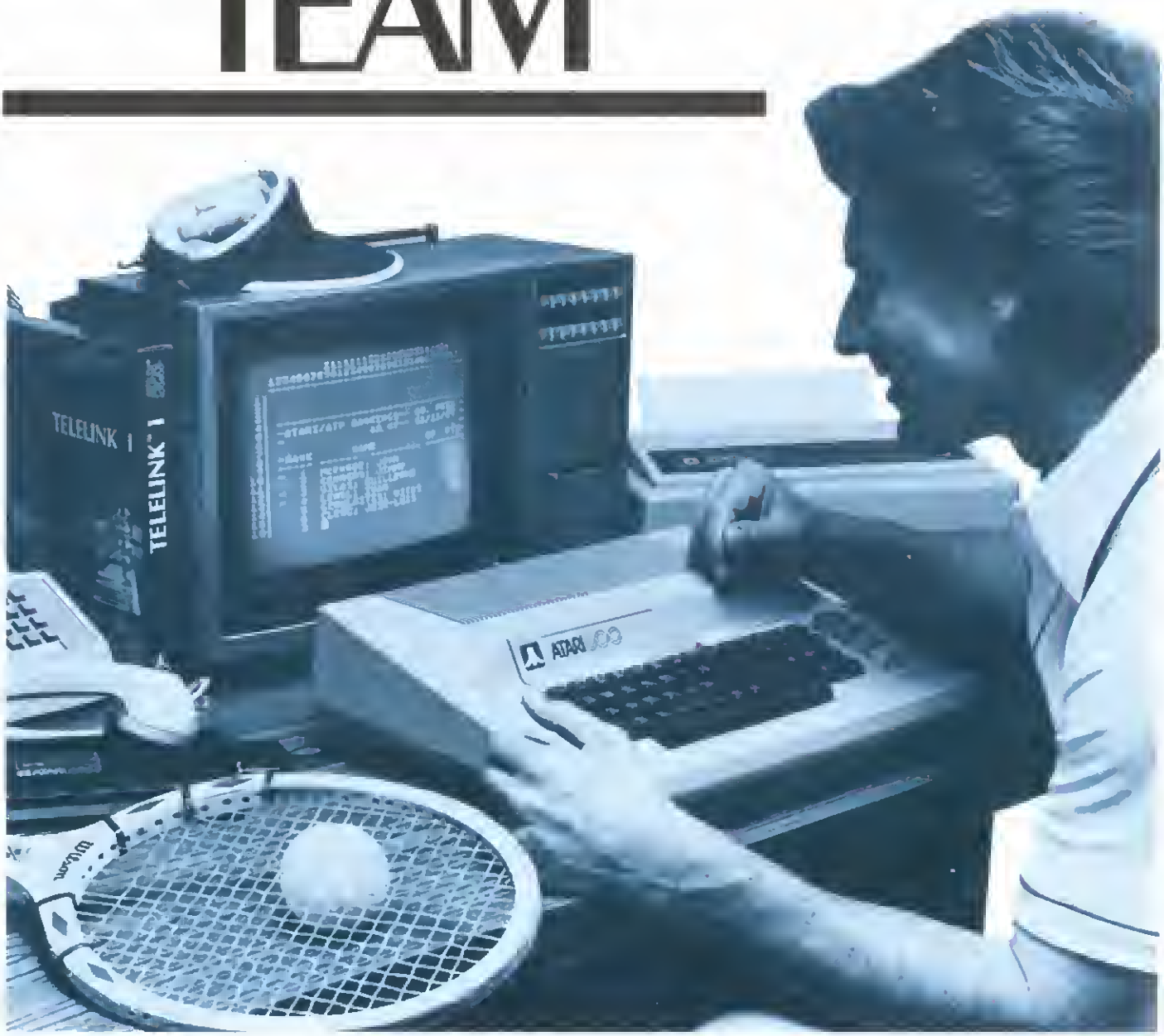
The Atari Challenge was held at railway stations & shopping centres throughout the country

ATARI AND A.T.P- A WINNING TEAM

Elsewhere in this issue we report on the highly successful Atari Soccer Six six-a-side football tournament held recently in Birmingham. Read on for news of yet another Atari venture into the world of sport.

At the Volvo Masters' tennis championship in New York's Madison Square Garden on 18 January, Atari's Home Computer Division and the Association of Tennis Professionals unveiled a new computer ranking system which will benefit players, organisers, journalists and home computer owners throughout the world.

The Atari 800 Home Computer is now the official computer of the Association of Tennis Professionals (ATP). It will be used to store, rationalise and provide information on all male tennis players throughout the world.



In an ambitious undertaking calling upon the versatility of the Atari 800, the skills of Atari programmers, ATP officials and players, the two organisations have developed the ultimate tennis ranking/data method.

The new system computes the positions of more than 1,000 singles players and a similar number of doubles players with information gathered from over 275 tournaments.

But it is also much more. Updated weekly, the ATARI-ATP Computer will make available the largest amount of player information ever. This data will contain over 20 entries on each player — including his ranking, winnings, success on various surfaces, even whether he is right or left handed! Additional historical comparative data is also stored. Here is how it works:

Results of all Volvo Grand Prix and ATP-sanctioned tournaments (including Wimbledon, the French and US Opens, and all major "Super Series" events) are sent to ATP's headquarters in Dallas, Texas. There the results are entered into the Atari Computer system which, unlike any previous system, automatically calculates and revises all player data including ranking over the past 12 months.

This information is then transmitted to CompuServe Inc, an American national data retrieval service. By calling CompuServe, home computer users in the States can instantly access all the information from almost any location. This user/owner service is, sadly, only open to those living in America. But it's early days yet; with the right help, a UK equivalent can't be far behind. And it's still interesting for sports fans to note that many international sports commentators and, indeed, the players themselves will now be using the system to access information on competitors' records, their strengths, weaknesses and chances of success.

The immediacy of this system will be of invaluable help to players, tournament directors, the media and fans with home computers. It will allow players to know immediately whether they are ranked high enough to qualify for a given competition; tournament organisers will have faster access to entry lists and seeding information; the media will be able to find current individual player information quickly; and fans can review comparative and historical data on their favourite players.

The versatility of the Atari 800 Home Computer will allow for future program revisions as more sophisticated ranking criteria are developed. At the moment, criteria for ranking tennis professionals programmed into the computer is decided by top-level active members of the sport. And this is how it should be.

As Earl "Butch" Buchholz Jr, executive director of the ATP said at the launch: "Whilst Atari has helped improve our technology and capability to communicate, the ATARI-ATP Computer Ranking System will still be administered by the players themselves. The technology is vastly improved but the players still rule the rankings that control their lives."

Harold Solomon, president of the 350-member organisation was also delighted. "The ATP computer rankings revolutionised pro tennis when they began in 1973," he said. "Today, we're not only upgrading it, we're providing a communications device.

"Pro tennis welcomes good partners and Atari will provide technical input necessary to maintain the ATP rankings as the standard for international tennis."

ATP is, and has been for a long time, the representative body for the world's top tennis pros. Its ranking system is the basis for tournament entries and seedings throughout the world, and it handles all player entries for major tennis events. You may have read the association's official newspaper, International Tennis Weekly, which is regarded as the major information source for news in pro tennis.

If not, look out for mentions of the ATARI-ATP system in your regular sports pages and computer magazines. Isn't it nice to know that the computer you own, and on which you probably file such things as household accounts and book lists, uses technology advanced enough to be put to sophisticated uses such as this!

Keep your eyes open too for the ATARI-ATP banner at all Volvo Grand Prix and other major tennis events The Volvo Grand Prix is the world's pre-eminent men's professional tennis circuit. In 1982 the tour featured 88 tournaments and tens of millions of pounds in prize-money. Throughout the year, the Volvo Grand Prix brings the world's best tennis to 29 different countries. This year that includes Britain's Wimbledon, Stella Artois Grass Court, and Benson & Hedges Championships in June, June and November respectively.

FACTS FILE

DISABLING THE BREAK KEY

Here's a simple and useful tip with which you can prevent the Break key from stopping your program when you accidentally hit it.

The following routine will disable the Break Key:

```
100 X=PEEK(16)
110 IF PEEK(16)<128 THEN 140
120 POKE 16,X-128
130 POKE 53744,X-128
140 REM Begin lines of your program here
```

If you hit System Reset, enter a new graphics mode or write to the disk drive or printer, you must execute the above routine again to keep the break key disabled.

A MATTER OF MEMORY

People often ask why only 40K of their computer's 48K RAM is available for programming. The answer is actually quite simple.

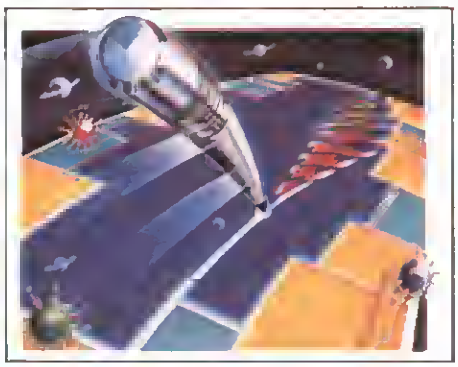
At the moment, all Atari cartridge programs use the very top 8K of your system's random access memory. So whenever a cartridge program is inserted, a computer with a full 48K of memory only has 40K available for programming.

When there is not a cartridge program in the computer, the top 8K of RAM will, however, be available for use.

This system may at first seem strange. However, if no cartridge is in place and a disk-based language is loaded (ie Microsoft Basic or Macro Assembler) you can in fact have 8K more RAM than if BASIC was installed permanently as on many other systems.

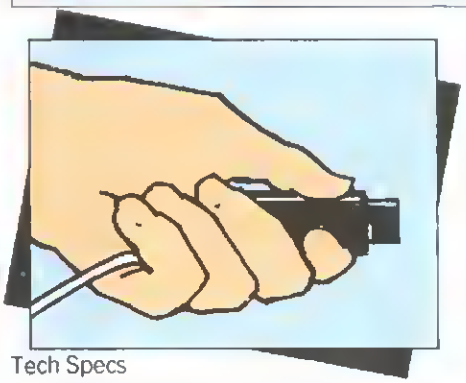
-STOP-
PRESS

JUST RELEASED...
QIX...
THE LATEST EXCITING GAME FROM ATARI...



Enquire at your local dealer.

ATARI SERVICE



Tech Specs

The Atari Service Centre's Product Support Group in Slough specialises in solving Home Computer owners' problems relating to the proper functioning of both hard and software.

If you find yourself in a tix, drop them a line. They'll be only too happy to help.

Here are three examples of the kind of questions our experts solve daily. We will be printing such common problems under the "Atari Service" banner in all future editions.

Dear Sir,
About five months ago I purchased an Atari 800 computer system. After using the system for a few weeks I purchased an 410 program recorder to add to the above computer.

The recorder performed very well for almost a month but then suddenly develcped a tendency to give a loading error. The errors are reported by the computer as 138 and 143. I thought the problem was with the recorder itself, so I returned it to my local retailer who immediately replaced it with another unit.

When I tried the new 410 recorder it still gave the same loading errors. I am writing to you in the hope that you can help me with the problem. The computer itself still performs very well with ROM-based software.

Yours faithfully,
Robert Hunt
Shelton Lock
Derby

Thank you for your recent letter. When loading/recording programs using cassette tape and an Atari 410 program recorder, you will probably encounter error messages at some stage.

The majority of errors are caused by the cassette tape itself — indicated by error 143. If recording to cassette you should note the following points:

a) Use standard casette tapes, not "specialist" tapes (eg metal or chrome cassettes)
b) If possible, use short cassette tapes (eg C10, C12 or C30), as this will reduce the possibility of tape-stretch (see item e).
c) Cassette tapes have "leaders" at the beginning and end. Always ensure that you wind past the "leader" so that the actual brown tape is showing before you attempt to save your program.

When loading programs from cassette, you should note the following points:

d) If the tape is pre-recorded (eg an Atari cassette), always follow the loading instructions (eg is BASIC cartridge required, do you use CLOAD etc).
e) Constant rewinding or advancing cassette tapes can cause the tape to wind unevenly and cause the tape to stretch. To overcome tape stretch, advance the cassette to the end of one side, turn it over and advance to the end of the reverse side. Turn the cassette back to the original side and try re-loading.

I hope that the above "tips" will be of some use to you. If you still experience any problems, please do not hesitate to contact me.
Jon Dean
Atari Product Support Slough

Dear Sir,
I have seen your advertisement in the November issue of Personal Computer World.

I am thinking of purchasing an Atari 800 Computer system with the following hardware:

48K memory
2 disk drives
1 cassette tape drive
1 impact 80 column (or wider) printer.

I would be grateful if you could provide me with all details for the above, including all the necessary interface units and interconnecting cables I should purchase, including those necessary for the connection of both an ordinary colour television set and/or monitor.

I have been told that you do not have a monitor, but I would be grateful if you could recommend a suitable model. Please include with the above prices and any other information related to the organisation and use of the Atari 800 computer system.
Yours faithfully,
Clement Lim
Chislehurst
Kent

Thank you for your recent letter. Please find the majority of information that you require in the enclosed literature. (Please note that these are American catalogues, and that only items on the price lists are available in this country). Any RS232 compatible printer can be used if connected to the Atari 800 via the Atari 800 interface module.

There are many colour monitors available. Atari does not favour any specific manufacturer or model, except that it should be of the composite video type (not RGB). The cable to link the monitor to Atari 800 is order ref: CX89 Monitor Cable.

Several televisions are now marketed which have monitor inputs. Hence they can be used as colour monitors as well as standard televisions.
Jon Dean
Atari Product Support Slough.

HOTLINE

☎(0753) 24561

Bugs in the system? Something you just can't handle? Don't panic. Our customer support service is at the other end of the telephone to help out.

Ring Slough (0753) 24561 for advice on all queries relating to Atari home computer hardware, software, peripherals and programming problems.

The chances are that your problem can be handled over the phone. But if not, our qualified personnel will always be able to tell you where to go and what to do.

This may entail a visit to one of our new Independent Service Centres now located around the country. There are now over 50 such centres in Britain, all of which will be able to deal with mechanical failure quickly and efficiently

INDEPENDENT SERVICE CENTRES

You will be delighted to know that Atari has installed a nationwide network of Independent Service Centres to service Atari Home Computer and Video Computer Systems.

There are over 50 Independent Service Centres in the UK — which means that there is one local to you. And local service means fast service!

Each Independent Service Centre has been inspected by Atari and all staff are trained by the company to ensure that they are able to service your computer to the highest standards possible. Every centre receives full technical support from Atari HQ and all will service HCS and VCS products.

All units under guarantee will be repaired free of charge provided that the unit is returned to an Independent Service Centre, or the Atari Service Centre at Slough, with proof of date of purchase.

If you have any difficulty locating your nearest centre, contact our Customer Relations Department on the Hotline number: Slough (0753) 24561.

Alternatively, an Independent Service Centre Guide listing names, addresses and telephone numbers can be obtained from your local dealer.

The current guide is enclosed in this issue of I/O for your convenience

APX

ATARI PROGRAM EXCHANGE

The Atari Program Exchange (APX) was originally created in America to acquire and distribute user-written software for Atari 400 and 800 Home Computers.

As you are probably aware, the Stateside catalogue is already available at your local dealer. It lists over 200 titles from a variety of people — from professional software specialists to hobbyists — many of which can be obtained in Britain.

What you may not know, however, is that we are now planning to add UK developed titles to distribute in this country, compiled exclusively by and for our British users. And for this we need your help.

Perhaps you have already written a program of which you are proud. Or maybe we can inspire you to really work on that fabulous idea that's been lurking at the back of your mind for so long?

Whatever the situation, do write into APX for a special form. Fill it in, send it back and show us what you've done! We'd really like to know and it will certainly be worth your while.

All programs submitted will be reviewed and all those included in the new UK catalogue will receive royalties on the sales. In addition, a competition will be run with a prize for the best software submitted.

Titles in the American catalogue range from those dealing with physical fitness to word processing; from "Sleezy Adventure" to Blackjack. But of course the range for our new British service is only as restricted as your imagination; so the sky's the limit! For further details write to John Peeke-Vout at our editorial offices in Slough.

SOFTWARE DEVELOPMENT

In addition to user-written software acquired via APX there is of course another, major centre for the development of programs for use on Atari home computers.

The Atari Software Development Group exists exclusively to pursue new avenues of need; and to develop those ideas and fulfil those needs with the aid of some of the best British software developers around.

Our aim is to increase the usefulness of Atari home computers by offering an extensive library of programs for users of all ages with differing requirements and interests.

Turn to our software spread on pages 12 and 13 for a taste of the kind of programs on offer at the moment.

THE ATARI LIBRARY

One of the best ways to learn about your Atari Home Computer is to sit down with one of the many excellent computing books now on the market.

Yet, with so many titles to chose from, it's sometimes difficult to know where to start. To help out, the Atari Product Support group has devised a comprehensive library list of recommended books, publishers and prices.

Listed below are 12 such books together with a couple of readers' enquiries which we think you will find useful.

If you have found any particular book exceptionally helpful, please write in and tell us about it. We will try to include all readers' comments and recommendations in this column in future issues of I/O.

Title	Author/Pub	R.R.P.(£)
(Teach Yourself) Atari Basic	Albrecht	5.95
Atari Basic Reference Manual	Atari	5.00
Technical User Notes	Atari	17.00
De Re Atari	Atari	17.00
Atari Assembler	Inman	9.95
Atari Sound and Graphics	Wiley	6.55
Computers for Kids		2.75
Microsoft Basic	Dilithium	8.75
Visicalc Home and Office	Osbourne	11.40
Your Atari Computer	Osbourne	10.75
Compute! First Book of Atari	Compute!	12.98
Compute! Second Book of Atari	Compute!	12.98

It is also possible to subscribe to several US magazines. These are Compute! (monthly), Antic and Analog (bi-monthly).

To obtain any of these publications enquire at your local dealer or bookshop.

Dear Sir,

I hope you can answer a couple of queries I have about programming my (16K) Atari 800 which, I should add, I am very pleased with.

I recently input a "blackjack" program from a book. This runs well in text mode but I thought it would be nice to run it graphically, ie to print the actual cards on the screen.

I tried to do it simply by using Graphics 17 and printing the card as a solid with the letter or number representing its value, BUT how do you get a solid block of colour in Graphics 17/18? The normal solid seems to be an inverse video space but this does not seem to work in Graphics 17. Any ideas?

Also, I recently input a game from a magazine. It seems to run OK but after a few minutes the colours on the screen start to "cycle" (as they normally do when you leave the computer unattended), even though the game is being played. This is obviously annoying. Can it be stopped? Is it a programming error perhaps, or is there a special command to stop it? (The programme in question is "Wild Strawberries" from Computer and Video Games, (Sept/Oct edition).

Finally, do you know of any Atari users' magazines such as the ones available for the Sinclair and Apple? I am looking for both games listings, utilities listing and general programming articles specifically on Atari.

Yours faithfully,
CHRIS READ
Milton Keynes.

PS: Do you have any general information on the three extra graphics modes not mentioned in the manuals?

Thank you for your recent letter. I am pleased to hear that you are satisfied with your Atari 800 Home Computer System.

For guidance on your "card game" idea, and many other useful tips, might I suggest that you purchase a "Compute! First Book of Atari", available from many computer book shops. You can also subscribe to "Antic", "Compute" and "Analog" via good bookshops.

With reference to your screen "cycle" problem, I suggest that you examine memory location 77 (see Atari Basic Reference Manual — appendix 1-1).

If I can be of any further assistance, please do not hesitate to contact me.
JON DEAN
Atari Product Support
Slough.

Dear Editor,

I would like to greatly thank you for your new I/O quarterly magazine.

I am a person who lacks computer programming knowledge, so I am more than happy to receive any hints that might enhance my knowledge of my computer. I hope to be able to learn how to create sophisticated programs from your magazines and information.

I have the Atari Basic manual and reference book, but I find that the Basic manual does not go into as much detail as I would like. Although I have learnt new Basic programming statements from my reference book, it still does not tell me in what category to use them.

As you can see, I need knowledge and experience and hope you are the person to help me.

Thank you very much.
Yours faithfully,
P THOMPSON
Leicester

Thank you for your recent letter which has been forwarded to me by the editor of I/O, and for your useful comments regarding our new quarterly magazine.

Please find enclosed a copy of my Product Support Book List. I would recommend that you read "Your Atari Computer", as I feel that it will provide the information you require.

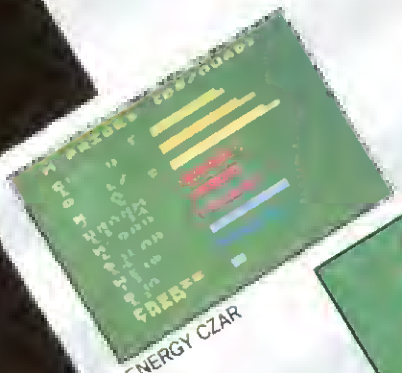
Please also find enclosed our latest production catalogues and American Atari Home Computer magazines.

Yours sincerely,
JON DEAN
Atari Product Support
Slough.

ATARI SOFTWARE

HOME EDUCATION

HANGMAN


ENERGY CZAR

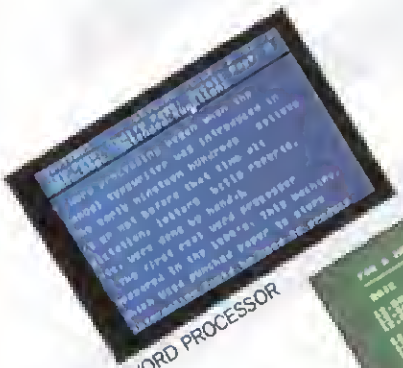
CONVERSATIONAL FRENCH
CONVERSATIONAL GERMAN
CONVERSATIONAL ITALIAN
CONVERSATIONAL SPANISH

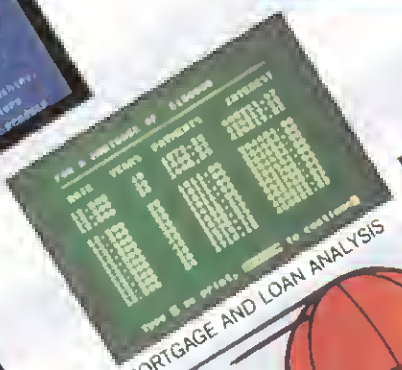
STATES AND CAPITALS
EUROPEAN COUNTRIES & CAPITALS

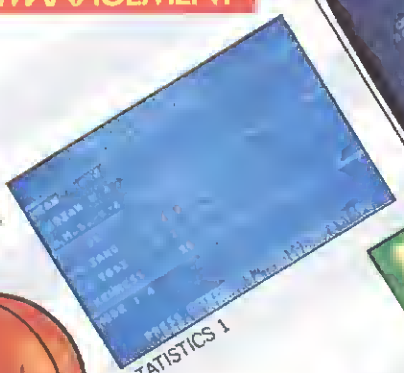
BIO RYTHM

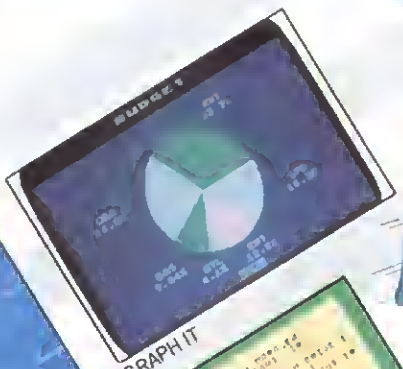
INVITATION TO PRO

HOME MANAGEMENT


WORD PROCESSOR

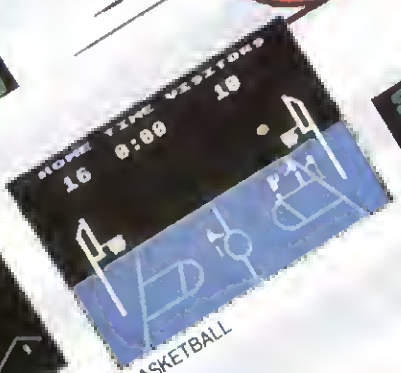

MORTGAGE AND LOAN ANALYSIS


STATISTICS 1


GRAPH IT

HOME FILING MANAGER

COMPUTER CHESS

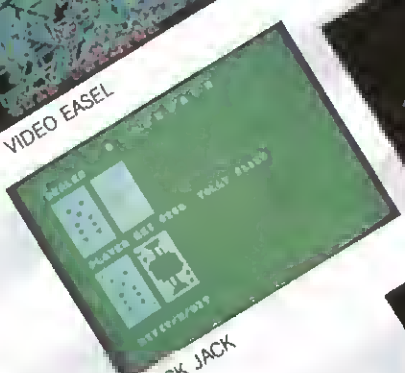


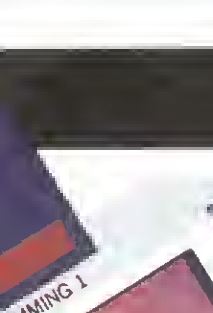
BASKETBALL

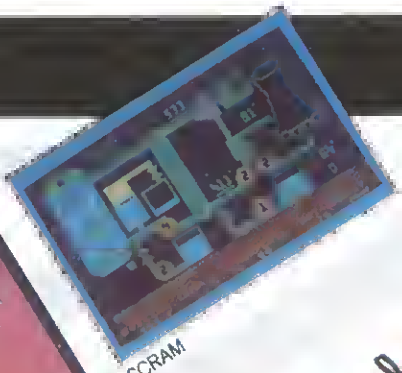
VIDEO EASEL

ASTEROIDS

DEFENDER

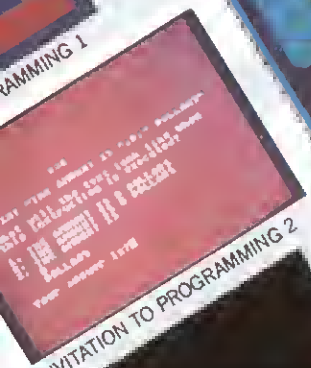

BLACK JACK

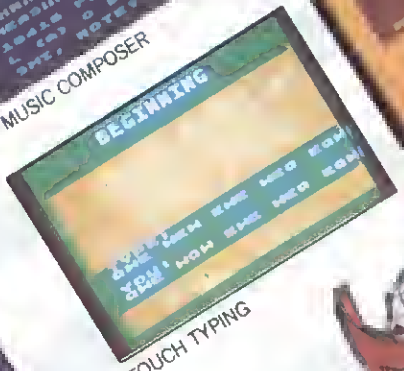

RAMMING 1


SCRAM

MUSIC COMPOSER

KINGDOM


INVITATION TO PROGRAMMING 2



TOUCH TYPING

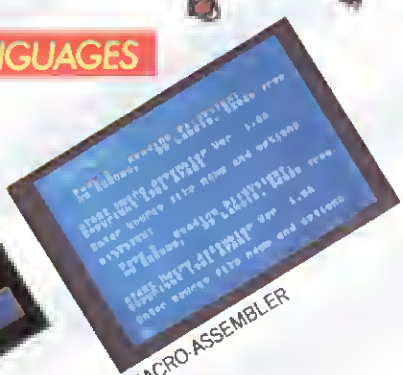
INVITATION TO PROGRAMMING 3

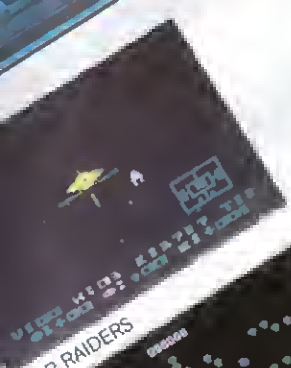
MY 1ST ALPHABET

PROGRAMMING LANGUAGES

BASIC

PILOT


MACRO-ASSEMBLER

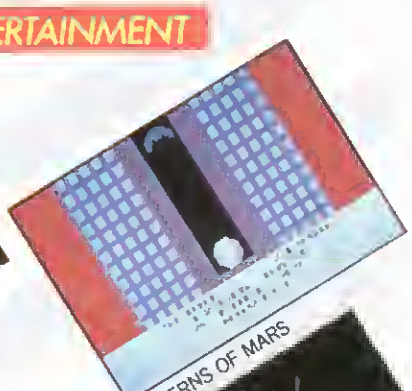

STAR RAIDERS

HOME ENTERTAINMENT

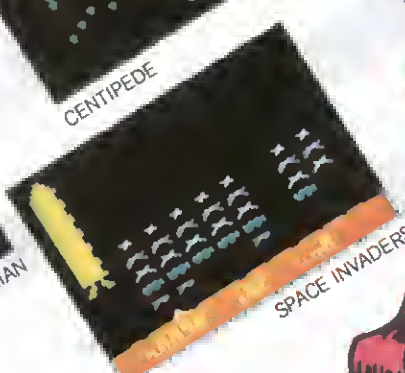
GALAXIAN

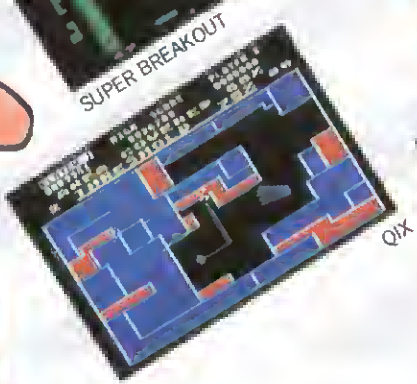
CENTIPEDE

SUPER BREAKOUT


CAVERNS OF MARS

PACMAN


SPACE INVADERS


QIX

MISSILE COMMAND

Contrary to popular Chinese belief, 1982 was not the year of the dog, the frog or yet of a lost and friendly little monster from outer space. It belonged to the computer.

Farsighted, the Government gave us Information Technology Year, a Minister to match and an undertaking to put a computer in every secondary school in the country. The world's leading news magazine, Time, recognised the facts of change and altered its prestigious Man Of The Year award to declare the computer Machine Of The Year.

What all this means to us is that the computer is here to stay. And that being so, our next consideration must be: What are we going to do with it? What is already being done?

For the past six months the staff and pupils of Sandy Lane Junior School in Berkshire have been using a unique method of computer-aided learning, devised by the parents of one of the pupils for use on an Atari Home Computer.

The software package, Key R, is essentially a teaching aid for people who have experience of teaching, not computers, and who wish to remain teachers, not computer experts.

It enables those with little or no computer expertise to create and record tailor-made lessons for pupils of any age, on subjects from Algebra to Zoology. The only requirement for teachers and pupils alike is that they should be able to speak English.

Key R was conceived and developed by husband-and-wife team Beryl and Gil Williamson from an idea put to them by Atari in Germany. Beryl and Gil, whose daughter Claire is a pupil at Sandy Lane, are data processing professionals of long standing. Their association with Atari through the family company, Amazon Systems, goes back three years.

"We devised the package and we knew it was good," said Beryl. "We just needed the chance to prove it."

That chance came early last summer when the Williamsons had a meeting with Andy Harrington, headmaster of Sandy Lane, to discuss Claire's secondary education.

At that time the school did possess, and use, a couple of Sinclairs and an Acorn, but it seemed that more could be done to progress computer-aided education into the curriculum.

"Up to a few months' ago," said Andy Harrington, "the main problem for us and others in the teaching profession was the appalling lack of commercial software available for use in the classroom.

"Many schools found themselves sitting on top of hundreds of pounds worth of magnificent hardware, but with no software back-up and no knowledge of how to create the programs for themselves.

"That's why Key R is such a boon. It's user-friendly and doesn't need high-grade computer experts to input high-grade programs to achieve effective results."

The system is actually so logical and simple to use that many teachers and pupils never bother to refer to the instructions. These are contained in just a few screens of instructional text and can be accessed at any time during lesson creation. A users' manual is not necessary.

For the teacher, lesson creation on Key R involves three elements: creation and display of text, graphics, and question-and-answer sections. These can be mixed in an infinite variety of combinations to achieve the best and most lucid explanation of the subject in hand. There is no meaningful restriction in length or scope of input, enabling the teacher to tailor his or her lesson exactly to the ability of a class or individual pupil.

In its most simple form a lesson could begin with a section of simple explanatory text, interspersed with illustrative graphics, a question-and-answer session to test the student's new-found knowledge, with the random appearance of colourful graphics as a reward for questions correctly answered.

Key R contains its own bank of circus character graphics, programmed to appear randomly on the screen, depending on how well the child performs. It is possible, however, to create special rewards for each lesson if the system is linked to a game or other package of the teachers choice including Atari Super-Graphics.

Lessons using Key R are therefore just as long, short, simple or complicated as the teacher cares to make them; the sequence and structure of things is entirely in the hands of the tutor. Yet both Beryl and Andy agree that the simple fact of having to think a lesson through, record and play it back, has improved the balance and effect of most classwork.

"The use of a keyboard allows teachers to prepare and refine their lessons to the nth degree," said Andy. "The practical realisation that effective computer work is always ordered, concise and to the point ensures that we concentrate and identify objectives from the start. Using the computer channels thought and makes you re-think your aims."

Beryl concurs. "To achieve the ordered logic obtained through the Key R framework with just pen and paper demands a degree of mental precision and patience that few can muster. Not many of us have the time! The structure of the program exposes loopholes in one's thinking. Both child and teacher are tutored throughout. They are told where they are, what they are doing, and what needs to be done. In this way, omissions and inconsistencies become obvious once on the screen.

"A good teacher could never be frightened of these things, and those who have problems compiling lessons must find it a tremendous help."

There were of course a few doubts at the beginning of the project about the effect that computers in the classroom would have on the quality of lessons, teacher-pupil relationships, and the children's ability and motivation to learn. But they shouldn't have worried.

"Recognising the calculating capacity of a computer, some parents feared that their children would not learn their tables or how to do sums once we went 'on-line'," Andy explained.

"In fact what now happens is that kids who would no more dream of poring over a page of text-book maths than fly to the moon, work through long division and multiplication on the computer of their own volition.

"Our problem is not one of timetabling them onto the computers, it's one of timetabling them off the kits. Motivation for this kind of learning is incredible. They love it, particularly if there is a reward.

"The parents are very supportive. They are determined to supplement and complement what their children learn in school. To my knowledge, 15 per cent of my pupils asked for and got processors for Christmas. They're nuts for computers!"

It's a fascination that appears to be universal. To illustrate this point, Andy Harrington tells the tale of his ex-deputy headmaster, a gentleman in his late 60s, who saw what the children were up to and was so determined to catch up that he took an Atari home with him four nights' running.

PHOTOGRAPH BY SANDRA PEREIRA

Even the school vocabulary reflects this excitement. "We now insert, delete, load, save and run things," says Andy. "It's all talk of RAMS, bytes and Basic. The children say to me, 'Is BREAK inhibited today, Sir?'."

But "nuts for computers" or not, Andy Harrington is naturally careful that things don't get out of hand.

"All our lessons are balanced," he explained. "The computer may provide the centre-piece for class work but by no means all our time is spent tied to the machine."

Typically, a teacher will run through the pre-prepared lesson on an Atari computer to illustrate and explain his point in a lucid and animated fashion. Then perhaps the class will break up into smaller groups which run through the lesson at their own pace, with the teacher supervising and checking. Alternatively, the computer lesson can provide the basis for future text-book work.

There is a danger of insularity for the child constantly pressed up against a screen, working by himself. But by ensuring that life at school is a blend and balance of class teaching, individual tuition, revisional or remedial computer exercises and peer-group work this is easily prevented.

Nor is such computer-aided learning impersonal in any way. Pupils using Key R lessons are addressed by their first name. Their reactions are minutely recorded on a print-out or journal enabling the teacher to keep a minute-by-minute check on individual reactions and learning speeds.

"It keeps the child's attention," said Beryl. "Interaction on a one-to-one basis is very interesting and, should a pupil's attention wander, there is no danger of him being left behind. The computer will just cease to progress. Everything the child does he does consciously."

Such recognition of a child's individual needs is perhaps the reason why Key R has proved particularly successful in helping children with recalcitrant learning problems. It exposes the difficulty immediately and enables them to repeat the lesson over and over until they get it right.

A voice and repeat-frame function incorporated in Key R at the teachers' request also helps to reinforce a difficult message in the text.

"Our first push into Key R lessons was aimed at those subjects which kids find perennially difficult, such as fractions, place values, the 24-hour clock, area and perimeter, and statistical probability," said Andy Harrington.

"It's always difficult to admit defeat in front of your peers. But the computer has endless patience and infinite time; it lets you fail in private."

For the competitive or lazy child Key R contains two timing systems: one to record the time taken to answer a question and a second to impose a limit on the amount of time given to answer such a question.

It's too early to say whether the Key R schools' system is actually instrumental in improving a pupil's learning ability or the speed at which he assimilates information.

However, neither Andy Harrington nor Beryl Williamson could express doubts about the success of their first six months' trials.

"It's a most useful teaching aid," states Andy. "A definite spur to learning."

"We haven't started to even scratch the surface of what Key R can be use for," says Beryl. "Busy parents, correspondence course teachers, those in further education or anyone who has knowledge to impart could make use of it. There's no limit to the amount or depth of educational uses to which it could be put."

At the moment Key R lessons are used in conjunction with Atari software right across the 7-11 age range at Sandy Lane. The younger children take most of their lessons with Key R, all 4th Year French is taught through Atari software cassettes, and the school orchestra learns with Atari Music Composer. Children in the middle age range are given a combination of Atari educational software and Key R.

The school holds an APX database from which Andy Harrington receives a weekly print-out of information on each child whose birthday falls that week. The children are also now creating a record of and cross-referencing system for every book in the school library. Not only a practical project, but one which

PHOTOGRAPH BY SANDRA PEREIRA

encourages each pupil to take a long hard look at the reading matter available to them.

To date, the Sandy Lane project has shown teachers and pupils alike that computers are useful, fascinating and fun. It has also taken the youngsters through the initial stages of computer programming, for which they use Atari's Introduction To Basic.

"In September this year there will be a large influx of pupils from Sandy Lane who have two years' experience 'on-line' into Garth Hill, our secondary school," said Andy Harrington. "And this does pose a problem.

"The present trend in secondary schools is to introduce processing in the third year, which is obviously now too late. The transition from primary to secondary education is crucial to the development of the processor curriculum at both schools, so we are working together to discover ways in which to bridge the gap."

Garth Hill has in fact been working with Key R on an Atari Home Computer since Christmas. They are very excited about it.

"At the moment we are running a pilot scheme incorporating Key R into geography, music, biology, technical drawing, mathematics and computer education courses," says Stan Goodchild, headmaster of the school. "It has been used with 1st, 4th, 6th form and remedial pupils, and has proved most successful with staff and youngsters alike.

"The fact that 58 of our staff came to the initial demonstration session last year gives one a good idea of the level of interest here. I can safely say that our Atari machine, for use on which Key R was devised, is in demand both day and night."

Stan Goodchild has been involved in mathematics and computing for many years. Before becoming headmaster of Garth he was a schools inspector specialising in such subjects and has, therefore, seen the birth and development of microcomputers. Not surprisingly, he feels strongly about their proper use.

"What one must remember is that computer-assisted learning right across the curriculum using the micro-computer is still in its early development," he said.

"The use of micro-computers in primary schools is relatively new, and in secondary schools micros have been seen until fairly recently in a specialist light, primarily for use in computer studies.

"I would like computers to become an integral part of lessons in almost all subjects, with all departments having access to a computer in their own rooms. There is a need to overcome the subconscious feeling that one goes to a room apart for lessons involving the new technology. With the advent of software such as Key R computers have been made ready to take on a new and wider role."

Mr Goodchild also points out that it is not merely the children who need to be tutored in the proper use of computers; one must also educate the teaching force.

"Do remember that, initially, adults find computers more difficult to deal with than the youngsters do," he said. "Our generation has not been brought up with the new technology; the hardware can be frightening for the uninitiated.

"A vast number of teachers in both primary and secondary schools still need to be convinced that the computer is a valuable teaching aid. They must be given the confidence to use it."

The Key R project at Garth Hill school is as yet in its initial stages but Stan Goodchild is confident that, with more machines and greater practice, he and his colleagues could easily extend its scope and frequency of use. A number of refinements have already been added to the package to increase its relevance and effectiveness in a more sophisticated educational environment.

"Key R can by its very nature be adapted to any educational level," he said. "I know of no other package that can claim to be equally useful throughout the curriculum. It can be applied to practically any subject, given the teacher to write the lessons."

But it is not only the Garth Hill teaching staff who have used Key R for lesson creation. The youngsters have also been involved in this side of things.

"We have so far discovered five applications for the Key R package," said Stan Goodchild. "It is used for class lessons, revision purposes, for the 'high flyer' or less able pupil, for the absentee who needs to catch up on what went on whilst he was away, and also to enable children to write their own lessons."

This discipline has proved most successful in helping the children to grasp matters and facts previously explained to them. It also opens up another possible application for the Key R software package.

"Most teacher training colleges now see computers as a valuable component part of their course. I see no reason why Key R should not make a significant contribution in this area," said Mr Goodchild.

"I have encountered a great deal of educational software, of which incidentally there is a sad lack, but Key R is the only piece I know which is sophisticated enough to give the flexibility a teacher needs when using a computer to aid his teaching programmes.

"It is written by experts for the sole purpose of helping a teacher to do his job. It has been thoroughly tested on a schools' base and has evolved as a result of experience in the classroom. It is in my view the best and most flexible piece of educational software of its type that I know."

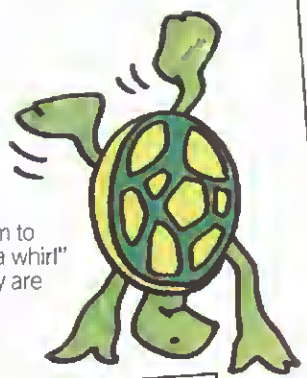
PILOT PLAYGROUND

Atari PILOT with "turtle" graphics is a unique software series especially designed to guide the beginner through the first stages of programming.

The short straightforward programs are easy to use and the final effect's well worth while for learners of all ages.

With "turtle" graphics you'll get the first inklings of the art and animation possibilities of your Atari computer. It's as simple as a push on your Joystick Controller! But first, some tips on how to begin.

Insert the Atari PILOT cartridge and turn on your Atari 400 or Atari 800 computer. Then type the programs EXACTLY as they are listed.



SQUIRALS

Here's a program to put the turtle in a whirl" Idea angles to try are 45, 89 and 123.

```
20 *BEGIN
30 T:WHAT ANGLE DO YOU
   WANT THE "TURTLE
   TO TURN?^
40 A:#A
50 GR:GOTO 0,0;
   TURNTO 0;CLEAR
60 C:#B=0
70 *LOOP
80 GR:DRAN#B
90 GR:TURN#A
100 U:*COLORS
110 C:#B=#B+1
120 J(#B<100):*LOOP
130 J:*BEGIN
140 E:
150 *COLORS
160 C:#Z=#Z^1
170 GR(#Z=1):PENBLUE
180 GR(#Z=2):PENRED
190 GR(#Z=3):PENYELLOW
200 C(#Z=3):#Z=0
210 E:
220 GR(#Z=2):PENYELLOW
230 C(#Z=3):#Z=0
240 E:
250 C(#Z=3):#Z=0
260 E:
```

PROGRAM IN PILOT

TURTLE CHASE

Two players compete. Each player controls a turtle on the screen with a Joystick Controller. Knock heads and music sounds! Use the first two controller ports on the front left of your computer.

```
20 GR:CLEAR
30 C:@712=14
40 GR:CLEAR;GOTO 0,-40;
   PENBLUE;FILL 110
50 *BEGIN
60 U:*JOYSTICK1
70 U:*TURTLE1
80 U:*JOYSTICK2
90 U:*TURTLE2
100 U(#A=#X):*BEEP
110 J:*BEGIN
120 *JOYSTICK1
130 C(%J0=8):#X=#X+1
140 C(%J0=4):#X=#X-1
150 C(%J0=1):#Y=#Y+1
160 C(%J0=2):#Y=#Y-1
170 C(%T8=1):@B710=?^255
180 E:
190 *TURTLE1
200 GR:GOTO #X,#Y
210 GR:PENRED;GOO
220 E:
230 *JOYSTICK2
240 C(%J1=8):#A=#A+1
250 C(%J1=4):#A=#A-1
260 C(%J1=1):#B=#B+1
270 C(%J1=2):#B=#B-1
280 C(%T9=1):@B710=?^255
290 E:
300 *TURTLE2
310 GR:GOTO#A,#B
320 GR:PENYELLOW;GOO
330 E:
340 *BEEP
350 SO(#B=#Y):
    13,17,20,24
360 PA(#B=#Y):5
370 SO(#B=#Y):
    0,0,0,0
380 E:
```

PROGRAM IN PILOT

```
20 R:USES PADDLE
   CONTROLLERS
30 *LOOP
40 GR:GO 0;PENBLUE
50 C:#P=%P0
60 C:#R=%P1
70 C:#X=#P*79/113-79
80 C:#Y=#R*41/118-31
90 GR:DRAWTO#X,#Y;
   DRAWTO#X,#Y
100 GR:PENERASE;GO 0;
    PENBLUE
110 T:      X=#X_#X_Y=#Y_
120 GR(%T0=1):CLEAR
130 GR(%T1=1):CLEAR
140 J:*LOOP
```

PROGRAM IN PILOT

SKYWRITERS

This is a special program for those with Paddle Controllers. Two players draw. Take it in turns to outdraw our partner (art wars!) or pretend you're sky-writing. NB: Line 110 requires extra steps. First type "T:". Now press the Escape Key (ESC), then hold down the Control Key (CTRL) and press the UP Arrow Key after X and Y.

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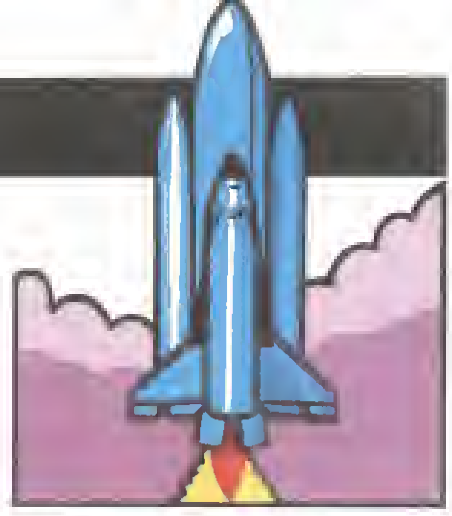
THREE D

Fly into a third dimension with this one! Start with a length less than 50. A small hint: use multiples of 8 for the degrees (it's three dimensional!).

```
30 GR:TURN#70:GO 40:
   TURN 90
40 C:@B709=56
50 C:@B708=50
60 C:@B710=60
70 T:WHAT IS THE 1ST
   LENGTH?^
80 A:#S
90 T:WHAT IS THE 2ND
   LENGTH?^
100 A:#R
110 T:NUMBER OF DEGREES
    TO TURN?^
120 A:#A
130 *FOREVER
140 GR:DRAW #S;TURN#A
150 U:*COLORS
160 GR:DRAW #R;TURN #A
170 U:*FOREVER
180 *COLORS
190 C:#Z=#Z+1
200 GR(#Z=3):PENBLUE
210 GR(#Z=1):PENRED
220 GR(#Z=2):PENYELLOW
230 C(#Z=3):#Z=0
240 E:
250 C(#Z=3):#Z=0
260 E:
```

PROGRAM IN PILOT

BACK TO BASIC



BASIC Learning

Here are two more programs for you to try out on your Atari Home Computer.

Both are great fun, but they will also teach you a little about what a computer can do for you. Make sure that you type the programs EXACTLY or they just won't work. This is because computers can't think like you; they just do what they are told — very fast!

The computer language we are using this time is BASIC. So make sure that you have installed your BASIC cartridge and then turn on the machine. Now, type in the programs. OK? Good. Type RUN and the computer will show you your program.

LIGHT AND SOUND SHOW

This program will show you some of the colour graphics (if you have a colour TV) and sounds that you can make with your Atari computer.

```
 10 DEG :GRAPHICS 7+16:COLOR 0
 20 FOR T=0 TO 5580 STEP 180+6
 30 X=50*COS(T)+79:Y=47*SIN(T)+47
 40 DRAWTO X,Y
 50 C=C+1:IF C>3 THEN C=1
 60 COLOR C
 70 SOUND 0,255*RND(0),14,14
190 NEXT T
195 SOUND 0,0,0,0
200 GOTO 200
```

PROGRAM IN BASIC

COUNTDOWN

This program helps you to count backwards. Just pick the number you want to start with when the computer asks you the question. Once you've got the hang of that, try asking the computer to practice counting backwards in 2s, 3s or even 70s! All you have to do is change the number in line 60 to the number you have chosen. So, to count backwards in 2s use N=N - 2; by 3s use N=N - 3; and by 70s use N=N - 70!

Just look how fast the computer can work it out!

```
 10 PRINT "HOW MANY NUMBERS DO
    YOU WANT TO COUNT DOWN?"
 20 INPUT N
 25 X=N*5
 30 PRINT N
 35 X=X+5
 40 SOUND 0,X,10,8
 50 FOR P=1 TO 400:NEXT P
 60 N=N - 1
 70 IF N>0 THEN GOTO 30
 80 SOUND 0,10,8,8
 90 PRINT "HURRAH!!!"
100 FOR A=1 TO 1000:NEXT A
110 END
```

PROGRAM IN BASIC

PILOT PAINT BOX

Those of you who are familiar with PILOT programs (perhaps you've just tried those on the adjacent page) will probably have wondered whether it's possible to change the standard PILOT pen colours of red, blue and yellow.

Well, of course you can! In fact, you can access the same beautiful spectrum of 16 brilliant colours available in Atari BASIC. Read on, and we'll show you how to do it.

PILOT's Graphics Mode gives you three pen colours plus black (which is the background colour) with which to colour your graphics and pictures. Only these four different colours are allowed on the screen at any one time.

For example, you may remember that we featured a PILOT Painted House program in the last issue of I/O which drew the house in the four standard pen colours: red, yellow and blue with a black background.

Then we showed you how to change the colours of the house. This time, we are going to explain how to change the colours drawn by each PILOT pen, and then how to use this knowledge to change the hue of all PILOT graphics.

You can change the colours assigned to a PILOT's Pen, but unfortunately you cannot change their names. So you will just have to remember what colour you have allocated to which.

The colour of each of the PILOT pens is controlled by a number value stored in four special places in the computer's memory and called a COLOUR REGISTER. Each colour register has its own address. These are listed below.

Pen	Address
Red	B708
Yellow	B709
Blue	B710
ERASE (Black)	B712

By using the C:(Compute) command along with the @ symbol and a colour address, you can change the colour of each pen. For example, the following command will change the colour of PEN RED to Royal Blue:

```
C:@B708=118
```

The range of values for each of the colour registers runs from 0 through to 256, which represents the entire spectrum of the Atari Computer's 16 colours.

If you look back to the last issue of I/O, next to the Kid's Corner section, you will find two colour charts to help you to chose your new PILOT Pen colours. One shows each of the colours with its corresponding colour number; the other gives the range of LUMINANCE VALUES (brightness) for each colour.

For those of you who did not receive last winter's copy of I/O, or who have mislaid it, the chart is reproduced on the inside front cover.

It is important that you add a luminance number to a colour number to make the shade you desire. The special formula below will help you to calculate the number representing each colour you want to use. Just follow these three simple steps:

1. Using the colour chart illustration, pick your colour and note its number;
2. Next, choose the colour shade by selecting one of the eight luminance numbers from the luminance chart;
3. Finally, add the two numbers together. You now have your final PILOT Pen Colour number.

So,

COLOUR	+	LUMINANCE	=	COLOUR VALUE
0 (black)	+	8 (medium)	=	8 (medium grey)
192 (green)	+	6 (bright)	=	198 (bright green)

It's useful to note that if you are in Text Mode instead of Graphics Mode, PEN BLUE conrols the colour of the rectangular text area and PEN YELLOW controls the brightness of the letters. Similarly, PEN ERASE controls the colour of the outer border around the text area.

ENTERTAINMENT

ON TAP.

Program by Bill Carris

```
10 GRAPHICS 2+16:PRINT #16;"AFTERDISPLAY
 IS DRAWN"
20 FOR FL=0 TO 14:SETCOLOR 2,9,FL:FOR DE
=1 TO 120:NEXT DE:NEXT FL
30 POSITION 2,5:PRINT #6;"HOLD DOWN STAR
T FOR BRASS"
40 FOR DF=1 TO 3:FOR ST=0 TO 14:SETCOLOR
 3,4,ST:FOR DE=1 TO 20:NEXT DE:NEXT ST:N
EXT DF
50 FOR FF=1 TO 10:FOR ST=0 TO 14:SETCOLO
R 0,15,ST:FOR D=1 TO 5:NEXT D:NEXT ST:NE
XT FF
60 FOR DELAY=1 TO 1000:NEXT DELAY
70 GRAPHICS 8
80 SETCOLOR 4,0,0
90 FOR Z=80 TO 96
100 COLOR Z
110 PLOT 2,Z:DRAWTO 58,Z
120 NEXT Z
130 FOR Z=112 TO 96 STEP -1
140 READ X:COLOR X
150 PLOT 2,Z:DRAWTO 66,Z
160 NEXT Z
170 RESTORE 270:GOTO 240
180 DATA 0,1,2,3,4,5,6,7,8,9,10,11,12,13
,14,15
190 FOR N=1 TO 31
200 COLOR 2:READ Y:PLOT 30,Y
210 GOTO 240
220 DATA 80,81,82,83,84,85,86,87,88,89,9
0,91,92,93,94,95,96,97,98,99,100,101,102
,103,104,105,106,107,108,109
230 DATA 110,111,112
240 FOR N=64 TO 65
250 READ KO
260 COLOR KO:PLOT 31,N:DRAWTO 32,N
270 DATA 1,1,2,2,2,3,3,3,4,4,5,5,6,6,7,7
,8,8,9,9,10,10,11,11,12,12,13,13,13,13,1
3,13
280 NEXT N
290 RESTORE 270
300 FOR BOT=128 TO 96 STEP 1
310 READ BK:TRAP 340
320 COLOR BK:PLOT 31,BOT:DRAWTO 32,BOT
330 NEXT BOT
340 COLOR 0
350 RESTORE 480
360 FOR XA=33 TO 43
370 READ YA,YB
380 COLOR 2:PLOT XA,YA:DRAWTO XA,YB
390 COLOR 3:PLOT XA,YA+2:DRAWTO XA,YB-2
400 COLOR 4:PLOT XA,YA+6:DRAWTO XA,YB-6
410 COLOR 7:PLOT XA,YA+9:DRAWTO XA,YB-12
420 COLOR 10:PLOT XA,YA+12:DRAWTO XA,YB-
12
430 COLOR 12:PLOT XA,YA+15:DRAWTO XA,YB-
15
440 COLOR 13:PLOT XA,YA+18:DRAWTO XA,YB-
18
450 COLOR 14:PLOT XA,YA+21:DRAWTO XA,YB-
21
460 NEXT XA
470 GOTO 500
480 DATA 77,115,77,115,74,116,70,119,67,
123,65,124,64,125,64,126,63,127,63,126,6
4,126,64,125,65,124,67,123
490 DATA 70,119,74,116,77,115,77,115
500 COLOR 2
510 FOR XB=38 TO 40
520 IF XB=39 THEN PLOT XB,47:DRAWTO XB,6
4
530 PLOT XB,48:DRAWTO XB,64
540 NEXT XB
550 COLOR 6
560 FOR XC=42 TO 44
570 IF XC=43 THEN PLOT XC,47:DRAWTO XB,6
4
580 PLOT XC,48:DRAWTO XC,64
590 NEXT XC
600 COLOR 10
610 PLOT 41,28:DRAWTO 41,47
620 COLOR 3:PLOT 40,28:DRAWTO 40,46
630 COLOR 6:PLOT 42,28:DRAWTO 42,46
640 COLOR 2:PLOT 41,65:DRAWTO 41,60
650 FOR Z=21 TO 28
660 COLOR Z+12
670 PLOT 28,Z:DRAWTO 54,Z
680 IF Z>27 THEN COLOR 2
690 IF Z>22 THEN PLOT 27,Z:DRAWTO 55,Z
700 NEXT Z
710 COLOR 2
720 PLOT 71,100:DRAWTO 71,135
730 PLOT 62,118:DRAWTO 62,134
740 COLOR 4
750 PLOT 70,90:DRAWTO 70,133
760 PLOT 63,118:DRAWTO 63,132
770 COLOR 6
780 PLOT 69,96:DRAWTO 69,132
790 PLOT 63,118:DRAWTO 63,132
800 COLOR 8
810 PLOT 68,87:DRAWTO 67,132
820 PLOT 62,118:DRAWTO 62,132
830 COLOR 12
840 PLOT 67,88:DRAWTO 67,132
850 PLOT 62,118:DRAWTO 62,132
860 FOR Y=80 TO 95
870 COLOR Y
880 PLOT 59,Y:DRAWTO 68,Y
890 NEXT Y
900 COLOR 12
910 PLOT 66,100:DRAWTO 66,132
920 COLOR 12
930 PLOT 65,101:DRAWTO 65,132
940 COLOR 10
950 PLOT 64,102:DRAWTO 64,133
960 COLOR 8
970 PLOT 63,104:DRAWTO 63,134
980 COLOR 5
990 PLOT 62,105:DRAWTO 62,135
1000 COLOR 3
1010 KSOU=14:COLOR KSOU:GOTO 1020
1020 PLOT 62,135:PLOT 63,136:PLOT 64,137
:PLOT 65,138:PLOT 66,138:PLOT 66,138:PLO
T 67,138:PLOT 68,137
1030 PLOT 69,136:PLOT 70,135
1040 KLUGE=1
1050 FOR DR=137 TO 191
1060 SETCOLOR 4,FLIPCOL,0
1070 PLOT 63,DR
1080 IF DR=191 AND KNOI=14 THEN GOTO 112
0
1090 NEXT DR
1100 IF KLUGE=1 THEN GOSUB 1180
1110 GOTO 1140
1120 FOR DN=77 TO 10 STEP -7:SOUND 0,DN,
10,DN:NEXT DN
1130 SOUND 0,0,0,0
1140 IF INT(RND(0)*255)>200 AND KNOI<>14
 THEN COLOR 15:POKE 77,1:KNOI=14:GOTO 10
1150 IF PEEK(53279)=6 THEN FLIPCOL=0
1160 IF PEEK(53279)<>6 THEN FLIPCOL=8
1170 KLUGE=2:COLOR 0:KNOI=0:GOTO 1050
1180 FOR DN=77 TO 10 STEP -7:SOUND 0,DN,
10,DN:NEXT DN
1190 SOUND 0,0,0,0:RETURN
```

PROGRAM IN BASIC

How to photograph your Atari computer graphics

Photographing computer images directly off your T.V. screen is quite simple if you have the right equipment and follow a few simple rules.

Dick Szumski, Media Production Specialist at San Jose State University in California, uses a 35mm single lens reflex camera. A single lens reflex not only allows him to see exactly what the camera sees but also provides the opportunity for "creative focusing". That is, the achievement of a softer, more vibrant and colourful effect by controlling the focus.

In the case of the illustration below the resulting slide has been combined with other slides to create spectacular new backgrounds. This method is particularly useful when a variety of colourful backgrounds is needed for title slides.

The choice of film depends on what end results you desire. For black and white prints any of the black and white films can be used. Kodak Tri-X* gives Dick the results he wants, but you might want to try a slower fine grained film such as Kodak Plus-X* If a colour print is required, Kodacolour* print film works very well. If you need a colour print immediately, it is possible to use a Polaroid but beware — the results are only fair and the print size is too small.

If you want to record your graphics on 35mm colour slide film your choices are many. You may be already shooting colour slides of holidays, family, etc. and are happy with the film you're using. If so, that's the film to try.

It is important to note that "daylight" colour film is used when photographing T.V. images. This is because the colour temperature of daylight film will match the colour temperature of the television tube more closely than will tungsten film, sometimes called "indoor film".

Since a T.V. screen is a resonably flat surface, focusing shouldn't be a problem. Just be sure the camera isn't aimed up or down at the screen or at an angle left or right. If the camera is not square you may have difficulty getting the entire screen image in focus. Depending on the camera, you could have a problem getting close enough to fill the camera frame with the screen image and also be in sharp focus. This is often the case if the screen is small. The only way around the problem is to use a close-up lens or a larger size monitor.

Obtaining the correct exposure presents no special problem. If your camera has an automatic exposure setting let the camera set the exposure for the image on the screen.

For manual exposure settings, you can try 1/15 of a second shutter speed set at f stop 8 on any film rated at ASA 200. It is sometimes a nice idea to vary the exposure to produce lighter or darker colours on the slides.

Although a tripod isn't absolutely necessary, Dick advises that you should use one. Not only does a tripod hold the camera steady during the long exposure required for T.V. images, but it also leaves your hands free to type in new commands and manipulate the colours and designs with the joystick.

Don't try to photograph any T.V. image using a flash. It's the same as shooting directly into a mirror. Also watch for reflections from room lights and windows. You can pick up a reflection from the camera itself if it has chrome on the front, so hide the camera behind a sheet of black cardboard that has a hole for the lens cut in it.

Also note that the less extraneous light you allow to hit the surface of the screen, whether it's from room lights, windows or the camera itself. The crisper the screen image and more professional and attractive your photographs will be.

YOU AND YOUR ATARI

When you first brought your Atari 400 or 800 home, you probably wondered: "Now, where shall I put it?"

That's a dilemma that most of us at Atari have faced at some time or another, and the interesting thing is that we've all solved the problem in different ways.

Some of us have, for example, set up our Atari in the living room, plugged into the T.V. set. Those lucky enough to have a little spare space have taken over the study or spare room. Others have created a "computer corner" in the garage or basement.

And inevitably, a lot of people have soon been confronted with a jury-rigged home computer centre built of tea chests, work-benches, shelving, old school desks and anything else that came to hand. Whatever the case, it's fairly safe to say that your computer's corner will look like no other.

If you feel that you have integrated your Atari Home Computer into your home in an attractive, efficient way particularly if most of the component parts are of your own making — we would like you to send us a photograph along with a description of your design.

In addition, please do send in photographs of your Atari graphics, as explained in the adjacent article. This is a most interesting area and one which is increasingly being used in a number of diverse fields. Did you know, for example, that film directors and advertisers now look to computer graphics for new visual effects? Or that many titles of recent TV programmes were devised and reproduced on computer?

Who knows, your Atari graphics may inspire some budding creative genius; that genius might even be your own. Do write in and show us and fellow club members what you have done.

The best examples of both graphics and workplace will be printed in I/O, and we'll give you a free piece of Atari software for your efforts.

Make sure that you include your address and telephone number so that we can contact you, and give you the necessary credit. The address to write to is, as normal:

The Editor
I/O
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Slough
Berkshire.

SOUND

Anyone who plays Atari games soon realises that their Atari Home Computer has exceptional graphics and animation capabilities. Many are less familiar with their computer's capacity for creating special sound effects.

The addition of sound greatly enhances many games and educational programs. One can, for example, program the computer to "squark" depressingly at a wrong entry, or play a happy tune at the successful completion of a particular difficult quiz. And of course games are made much more exciting by the inclusion of relevant audio effects.

One can learn to use the Atari's sound capabilities quite quickly, using the Atari BASIC programming language. Developing the exact sounds you want can, however, take time and experimentation. But you'll have great fun doing it.

To design sounds you need to understand how to do three things:

1. Write SOUND statements
2. Write timing FOR-NEXT loops
3. Combine the different voices to create sounds.

THE SOUND STATEMENT

The SOUND statement is a statement written in Atari BASIC (make sure that the BASIC cartridge is in the computer) which tells the machine what voice, pitch, distortion and loudness to make the sound. Every sound statement must, therefore, include four numbers to represent these four elements.

```
10 SOUND 0,200,10,8
         voice  pitch  distortion  loudness
```

Voice

The Atari Home Computer has four voice or audio channels. It is therefore possible to create four different sounds simultaneously. The different voice values are 0, 1, 2 and 3. Separate SOUND statements must be used for each voice, for it is not possible to combine them into a single statement.

Pitch

The pitch number indicates to the computer the frequency of the sound you want (how high or low, as with a musical note). This number must be between 0 and 255; the higher the number, the lower the sound. The range of possible pitches from your Atari Home Computer spans slightly more than three octaves. A complete list can be found in your BASIC Reference Manual, but the table below gives the numbers for musical notes one octave above and below middle C.

	PITCH	VALUE
	C	60
	B	64
	A# or Bb	68
	A	72
HIGH	G# or Ab	76
NOTES	G	81
	F# or Gb	85
	F	91
	E	96
	D# or Eb	102
	D	108
	C# or Db	114
MIDDLE	C	121
	B	128
	A# or Bb	136
	A	144
	G# or Ab	153
	G	162
LOW	F# or Gb	173
NOTES	F	182
	E	193
	D# or Eb	204
	D	217
	C# or Db	230
	C	243

Distortion

The distortion value tells the computer how pure the sound should be. For musical notes (pure tones) use 10. The other distortion values yield a variety of interesting sound effects. These values must be even numbers between 0 and 14.

Loudness

The final number in the statement determines how loud the sound will be and may be any number between 0 and 15, with 0 giving no sound and 15 producing the loudest effect. Use 8 for normal volume level.
When producing more than one voice at a time, make sure that the total of the loudness values is 32 or less.

TIMING FOR-NEXT LOOPS

The FOR-NEXT loop determines how long any particular sound lasts. The FOR and the NEXT statements follow the SOUND statement (line 10) and must be followed themselves by a statement which resets the sound channel to silent (line 40). For example:

```
10 SOUND 1,121,10,8
20 FOR X=1 TO 100
30 NEXT X
40 SOUND 0,0,0,0
```

The FOR statement commands the number of times the computer cycles through the loop. Thus, in the example above, the FOR and NEXT statements would be repeated 100 times. Line 40 turns the sound off by setting the pitch, distortion and loudness to zero. If you do not reset the sound channel to silent, the sound will continue until the program stops or you write a different SOUND statement for the same voice. By experimenting with the number of loops (changing 100 in our example) you can maintain the sound for any given length of time.

The FOR-NEXT loop can also be used to insert pauses between different sounds. The value in the FOR statements indicates how long that pause should be. To make a pause longer, change 100 in Line 50 below to a larger number. Using our first example above, now add:

```
10
20      First Sound
30
40 SOUND 0,0,0,0
50 FOR Y=1 TO 100
60 NEXT Y
70
80      Second Sound
90
```

You can then add lines for the next sound (include a SOUND, FOR and NEXT statement similar to lines 10, 20 and 30 above), and a pause will occur between the sounds.

COMBINING VOICES TO CREATE SOUNDS

Chords for musical tunes and other interesting sound effects can be created by using different voices simultaneously. Different SOUND statements must be written for each voice and voices can be eliminated by resetting them to silent.(Use a new SOUND statement with the number of the voice you want to be silent, and zero values for pitch, distortion and loudness).

Writing music can take some time. The following program will help you to get started.

```
Key:    N1=NOTE 1
        N2=NOTE 2
        N3=NOTE 3
        N4=NOTE 4
         T=Timing Value

10 RESTORE
20 READ N1,N2,N3,N4,T
30 IF N1=-1 THEN END
40 SOUND 0,N1,10,8
50 SOUND 0,N1,10,8
60 SOUND 2,N3,10,8
70 SOUND 3,N4,10,8
80 FOR X=1 TO T
90 NEXT X
100 GOTO 20
110 REM DATA STARTS HERE
120 DATA 100,200,50,150,400
130 DATA -1,0,0,0,0
```

Insert data statements like line 120 between lines 100 and 130. Each DATA statement represents a chord and must include five numbers. The first four numbers are the pitch values for the notes of the chord. The fifth number represents the length of time the chord plays (400 equals approximately one second with four-note chords). Lines 30 and 130 tell the computer to end the program when it runs out of data, in other words, at the end of the song.

SPECIAL SOUND EFFECTS

Here are some sound programs for you to try out. Then begin building your own library of sounds for use in different programs.

```
0 REM:AMERICAN SIREN
10 FOR SIRENS=1 TO 10
20 FOR PITCH=60 TO 40 STEP -2
30 SOUND 0,PITCH,10,8
40 FOR X=1 TO 10:NEXT X
50 NEXT PITCH
60 FOR PITCH=40 TO 60 STEP 2
70 SOUND 0,PITCH,10,8
80 FOR X=1, TO 10:NEXT X
90 NEXT PITCH
100 NEXT SIRENS
```

```
0 REM:OCEAN
10 FOR Z=0 TO 10
20 SOUND 2,Z,8,4
30 FOR I=1 TO 30
40 NEXT I
50 NEXT Z
60 FOR Z=10 TO 0 STEP -1
70 SOUND 2,Z,8,4
80 FOR I=1 TO 100
90 NEXT I
100 NEXT Z
110 GOTO 10
```

```
0 REM:COMPUTER THINKING!!
10 FOR Z=1 TO 100
20 SOUND 0,INT(RND(0)*75),10,8
30 NEXT Z
```

```
0 REM:ROAD DIGGER
10 FOR Z=1 TO 200
20 SOUND 2,140,6,6
30 NEXT Z
```

```
0 REM:FALLING BOMB
10 FOR Z=30 TO 200
20 SOUND 2,Z,10,6
30 NEXT Z
40 FOR Z=30 TO 200
50 SOUND 2,Z,0,6
60 NEXT Z
```

```
0 REM:BUZZER
10 SOUND 2,40,60,10
20 FOR Z=1 TO 400
30 NEXT Z
```

```
0 REM:CANNON
10 FOR T=1 TO 21
40 SOUND 0,80,0,11
50 FOR Z=100 TO 1 STEP -1
55 SOUND 0,Z/10,0,Z/14
60 NEXT Z
70 SOUND 0,0,0,0
80 FOR Z=1 to RND(1)*300
   STEP RND(1)*2
90 NEXT Z
100 NEXT T
```

```
0 REM: BIRDS
10 FOR J=1 TO 10
20 FOR I=1 TO 20
30 SOUND 2,I,10,8
40 NEXT I
50 NEXT J
```

NEWS FROM THE USER GROUPS

A DAY AND A BIT IN THE LIFE OF A SOFTWARE MANAGER

Last December Graham Daubney, our software manager and resident expert on Atari User Groups, received an invitation to visit the Birmingham User Group, affectionately known as BUG. Here is his behind-the-scenes report on what proved to be a most eventful day . . .

"Following an invitation, I attended a meeting of the Birmingham User Group (BUG) to present an informal talk on Atari's plans for the UK, to show early copies of new software and, of course, a few old tavourites too.

'Where's Birmingham?', I asked, being one ot those types that rarely venture north of Watford for fear of attack from the Celts. 'Take the M1 and then the M6,' came the reply. So off I set.

Having taken over three quarters ot an hour to fight my way around one of our glorious modern road networks (better known as the North Circular), I arrived at the start of the M1 and duly headed north. By this time I had, of course, packed my thermal undies and had my passport renewed . . .

After about an hour and a half of the relative calm of motorway driving (goodness, don't those coaches move!), I spied my target, the city of Brum.

Now, for those of you who have never been to Birmingham, let me explain. The town planners so-called have carefully arranged the city so that, no matter where you want to go, you can always see it, but never quite get there.

I had arranged to stay overnight, as my understanding was that BUG met in the upstairs lounge of a pub (one of those few places where you are allowed to drink, but which are always shut when you are thirsty). And anyway, it seemed silly to waste any hospitality that might be offered.

As I entered the city I could see the Holiday Inn, where I had arranged to stay. It was large as life, about halt a mile or so away. Good, I thought, time for a quick shower and a quiet drink.

But, wrong, I found out! Remember how I explained the city layout earlier? Well, after at least two circuits of the outer ring road and countless circumnavigations of the inner ring road, combined with the startling discovery of a pedestrians-only shopping centre, I reached for my phrase book and asked the way. Navigation never was my strong point.

Having arrived at last at the hotel, and not wishing to repeat the previous hours' performance after dark (especially after the hospitality I had been promised), I put myselt in the hands ot a local cabbie tor the journey to the Bullring.

The Bullring, by the way, is a largish shopping complex in central Birmingham, and nothing to fear. Which is just as well because I had left my red cape (the one which all Atari employees keep for Spanish trips) in the office.

I arrived about an hour early, unsure what to expect, and was greeted warmly by those important members of any club — the officials. I'm sure that many people don't realise just how hard it is to organise a well-run club. Of which, I am happy to report, BUG is one.

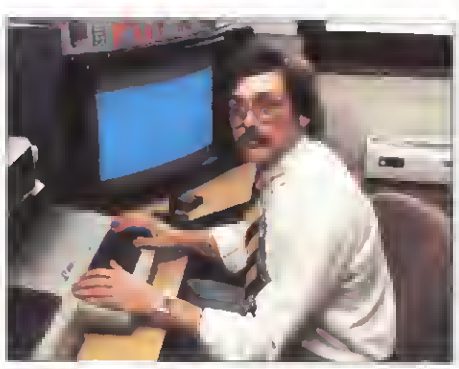
By the way, these guys were erecting a sound system (?!). At this point mild panic set in. On all previous visits my own voice had been considered sufficient — more than sufficient, some kind souls might say. 'How many are coming?' I asked gingerly. 'Oh about 150, I expect,' came the casual reply. This seemed a reasonable assumption as we still had 30 minutes to go until official opening time, and about 25 thirsty looking Atari owners were already waiting at the door.

Fifteen minutes to the "off" and now the hall was in a tervour of activity, with systems springing up all over. At this point I decided to spend the first 30 minutes or so incognito and to circulate (always wanted to be 007 anyway).

The membership of BUG is, I suspect, fairly typical and ranges from new owners to hardened display-list veterans. It was noticeable that there was great willingness by those who had knowledge to help out those who did not, which was nice.

I managed to get involved in a number of discussions on basics (those basics, not B..A..S) and also one or two rather heavier chats on four color/colour (take your pick) character sets which seemed very much in vogue around Birmingham.

Don't tashions change. I can remember the day when people wandered around mumbling 'DLI, DLI, DLI' because DLI's were the 'in-thing'. Not that there's anything wrong in that of course. In any society there are the haves and the have-nots, and in the computer world that also equates to you Atari owners and to those untortunate individuals who bought something else!



I was rapidly brought down to earth from an enthusiastic discussion on player/missile graphics by calls of 'order, order!' from a lone brave official standing at the front of the hall.

The usual club-type announcements were made and then tollowed by an interesting appeal for articles. BUG has decided to print a user magazine. Not just an in-house one, but the whole hog: a fully fledged Atari mag to rival the like of ANALOG and ANTIC (up the Brits!). In fact, the first issue should be around by the time you read this. For your info, it is entitled PAGE SIX and will contain articles of interest, reviews and of course programs to type in.

Then, 'Gentlemen, please welcome from Atari, Mr Graham Daubney'. Oops, stop applauding you fool. That's you! Oh well, here goes.

I bounced to the front, pausing only to trip over the mike wire. Having assured myself that 150 Atari owners were laughing with me and not at me, I launched into my bit (or was it byte?).

I very much enjoyed the next hour or so as I presented a look inside Atari and outlined some of our planned activities. I also demonstrated a pre-release version ot Defender and some interesting graphical effects, some of which employed digital pictures (yes, those ones).

'Never work with children, animals or computers,' most presenters say. But I'm glad to report that all went well, although at times my continuity was bad enough to rival Nationwide!

Taking my life in my hands and slipping on my ex-army flak jacket, I offered to answer questions for a few minutes at the end. On most questions we reached mutual agreement. But I would like to extend my thanks to whoever was in about the third row from the front and helped me out trom time to time!

So that was that. I survived — and all without an interpreter. May I take this opportunity to thank everyone at BUG for a great night out, especialy those people who invited me and helped to organise such a smooth trouble-free evening (the broken leg's healing nicely, thank you).

Finally, for all Atari owners in the Birmingham area, it you want a fun night out amongst friends in pleasant surroundings, within the structure of a well run but informal club, then BUG off to Birmingham soon!"

SINCE THIS ARTICLE WENT TO PRESS GRAHAM HAS LEFT ATARI. ALL USER GROUP ENQUIRIES SHOULD BE DIRECTED TO THE EDITOR

YOUR LOCAL ATARI USER GROUP

Following our article on how to set up a User Group in the last issue, many club members have written in to I/O requesting a list of those in their area.

Well, here they are. As you can see, there are already more than 30 groups throughout the country -- that should mean one within a manageable distance of your home.

If you would like to join one of the groups listed below, just write in to the contact given. No doubt he or she will be absolutely delighted to hear from you.

If, however, you find that there is not a club within convenient distance, why not set up one of your own? Write in to the Editor at Atari House, Railway Terrace, Slough in Berkshire and he will send you a comprehensive fact sheet on the best and most effective way to start your club.

For those of you who already belong to a group, we would be most grateful if you could keep us up to date with any and all changes. If, for example, your User Group has divided or moved elsewhere, do let us know. In this way we can be sure that all fellow members wishing to join your club are given the correct contact point and are not disappointed.

New group members, please send us details of contacts, the name of your group, its venue and meeting times for our files. We will make sure that others are made aware of your existence.

All details listed below were correct at time of going to press.

AVON
Bristol:
The East Bristol Atari Users Group
C/o Micro-C
2 Channons Hill
Industrial Estate
Fishponds
Bristol

BERKSHIRE
Slough:
Contact: C/o David Bell
Silicon Chip
302 High Street
Slough
Berks.

BUCKINGHAMSHIRE
Milton Keynes:
T Jordan
1B Buckman Close
Greenleys
Milton Keynes
Bucks.
Tel: 0908 314439

DEVON
Braunton:
Mr J R Casey
36 Hazel Avenue
Acland Park
Braunton
N. Devon

DORSET
Poole:
Gregory P Cox
3 Morrison Avenue
Parkstone
Poole
Dorset BH12 4AD

ESSEX
Basildon:
Mr P Silver
Basildon Computer Club
20 Pattocks
Basildon
Essex SS14 1QW

Rainham:
Mr John Farrar
138 Frederick Road
Rainham
Essex
Tel: (76) 22077 (Home)
555 3299 Ext 2176 (Office)

HERTS
Cheshunt:
Matthew Tydeman
125 Cadmore Lane
Cheshunt
Herts. WX2B 168

Wormley:
The Lea Valley User Group
1 Globe Court
Wormley, Herts.

KENT
Swanscombe:
Ken Matthews
29 Broomfield Road
Swanscombe
Kent DA10 0LU
Tel: (0322) 842338 (Home)
(0322) 842244 Ext 269 (Office)

LANCS
Atherton:
Bolton Computer Club
Secretary: Dave Atherton
16 Douglas Street
Atherton
Manchester M29 9FB

Preston
Mr Dineen
813 Blackpool Road
Preston PR2 1OQ

Worsley:
John Young
35 Lymfield Road
Bothstown
Worsley
Lancs.
Tel: 061 799 0124

LONDON
Atari Users Group
C/o Thames Television Ltd
306-316 Euston Road
London NW1 3BB
Contact: Tony Cox
Tel: 01-387 9494 Ext 552/550

G Moore
Judd St. Computer Club
105-109 Judd Street
London WC1

MERSEYSIDE
Mr Teater
19 Graffington Crescent
Liverpool
L25 9RU

Upton:
Merseyside Atari Computer Club
Treasurer: R B Gibson
3 Dunning Close
Upton
Wirral
Merseyside L49 2RH

MIDDLESEX
Ashford:
South Middlesex Atari Club
Secretary: Brian Milligan
50 Linkscroft Avenue
Ashford, Middlesex

Enfield:
Jennings Store Ltd
248 Hertford Road
Enfield
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Contact: Mr Michaels
Tel: 01-804 1767

Harrow:
Harrow & Surrounding District
Mr M Gutteridge
Tel: 965 0511 Ext 3457

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Ron Stewart
12 Windsow Gardens
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Tel: 01-848 069B

MIDLAND
Wednesbury:
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42 Short Street
Wednesbury
West Midlands
WS10 751

Birmingham:
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Sec. Bakelite Atari Users Club
66 Cyril Road
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B10 0TG

Leeds:
Atari User Club in Leeds and Area
2 Wharfedale Grove
Leeds
LS7 2LO
Contact: Christopher Payne
& Ray Evans
Tel: 657 862

NORTHAMPTONSHIRE
Daventry:
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Drayton Green
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OXFORDSHIRE
Oxford:
Oxford Personal Computer Club
(OPeCC)
Information Officer: J S Linfoot
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SUSSEX
Brighton:
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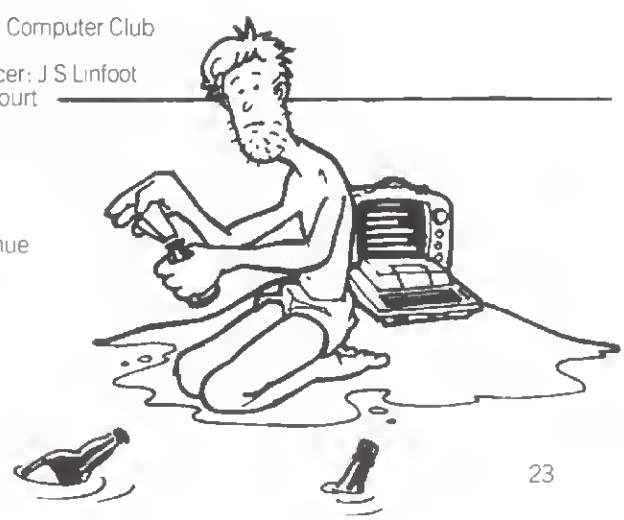
Roy Leith
242 Mackie Avenue
Brighton
Sussex BN1 BSD
Tel: (0273) 509413 (Home)
(01) 357 4015 (Office)

Worthing:
Mr J Butler
18 Cumberland Avenue
Worthing
Sussex

GLASGOW
Glasgow Atari Independent
User Group
C/o 11/4-27 Castlebay Drive
Milton
Glasgow G22 7LJ
Strathclyde
Tel: (041) 772 B964
OR C/o George Stevenson
51 Skerry Street
Milton
Glasgow
Strathclyde

EDINBURGH
The Edinburgh Atari Computer Club
C/o Alan Sedgewick
1B Henderson Court
East Calder
West Lothian
Tel: (0506) 880175



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